

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

In Re: Methyl Tertiary Butyl Ether ("MTBE")  
Products Liability Litigation

Master File No. 1:00-1898 (SAS)  
MDL 1358

**This document relates to:**

*Commonwealth of Puerto Rico, et al. v. Shell  
Oil Co., et al.*, Case No. 07-cv-10470

**PLAINTIFF'S CONSOLIDATED OPPOSITION TO DEFENDANTS' RULE 56.1  
STATEMENT IN SUPPORT OF MOTION FOR SUMMARY JUDGMENT ON  
COUNT I AND IV (STRICT PRODUCTS LIABILITY)**

**AND**

**PLAINTIFF'S SEPARATE RULE 56.1 STATEMENT IN SUPPORT OF PLAINTIFF'S  
OPPOSITION TO MOTION FOR SUMMARY JUDGMENT**

**PLAINTIFF'S RULE 56.1 STATEMENT IN OPPOSITION TO MOTION FOR SUMMARY JUDGMENT**

Pursuant to Rule 56.1 of this Court's Civil Rules, Plaintiff respectfully submits the following statement of undisputed facts in opposition to Defendants' Motion for Summary Judgment on Plaintiff's Counts I and IV. For the sake of efficiency and continuity in numbering, Plaintiff has consolidated its' affirmative Rule 56.1 Separate Statement (paragraphs 58-119) with Plaintiff's Opposition to Defendants' Rule 56.1 Statement. Plaintiff's affirmative statement, independently, would conform to the Court's page-limit rules.

**Procedural Posture**

<b>DEFENDANTS' UNDISPUTED MATERIAL FACTS AND ALLEGED SUPPORTING EVIDENCE</b>	<b>PLAINTIFF'S RESPONSE AND EVIDENCE</b>
1. From the initial set of Trial Sites selected by the parties, five Trial Sites now remain at issue for the first trial of this action: (1) Shell #003042, (2) Esso CO-242, (3) Esso CO-364, (4) Total #1012, and (5) Texaco #800 (collectively, the "Trial Sites"). See CMO 117 (1:07-cv-10470-SAS Dkt. # 457).	<b>Undisputed.</b>

**Gasoline "Design," or, the Composition of Finished Motor Gasoline**

<b>DEFENDANTS' UNDISPUTED MATERIAL FACTS AND ALLEGED SUPPORTING EVIDENCE</b>	<b>PLAINTIFF'S RESPONSE AND EVIDENCE</b>
2. The quality and composition of gasoline marketed in the U.S. has changed significantly over the years. Many of the changes resulted from a combination of economic forces (including competition), political and geopolitical events, and regulatory initiatives. Often there have been conflicting issues to be addressed that have forced refiners, automobile manufacturers, policy makers, and regulators to make choices between various	<p><b>Undisputed</b> that defendants exercised great control over the composition of their gasoline products.</p> <p><b>Undisputed</b> that defendants could have provided the Puerto Rico market with gasoline of any "quality or composition" that defendants chose, including gasoline that did not contain MTBE.</p>

<p>competing solutions. Thus, today's motor gasoline is the result of a broad collection of ideas, research, analysis, competitive forces, negotiation, and regulation. (<i>Dillon Dec. Ex. 3</i> ("O'Brien Rpt."), at ¶ 21).</p>	<p><b>Undisputed</b> that Mr. O'Brien's report includes this comment.</p> <p><b>Irrelevant</b> to the extent that this statement relates to any market other than Puerto Rico.</p>
<p>3. "The Energy Information Administration (EIA) of the Department of Energy (DOE) defines "finished motor gasoline" as '<i>A complex mixture of relatively volatile hydrocarbons with or without small quantities of additives, that has been blended to form a fuel suitable for use in spark-ignition engines</i>' (principally automobile engines). Motor Gasoline is produced in a variety of different grades and to multiple specifications to meet the requirements of different engines, geographic regions, environmental regulations, and climatic zones." (<i>Id.</i> at ¶ 8).</p>	<p><b>Undisputed</b> that defendants have the power to produce – and do in fact routinely produce – finished gasoline "in a variety of different grades and to multiple specifications."</p> <p><b>Undisputed</b> that defendants could have provided the Puerto Rico market with gasoline that met any "specifications" that defendants chose, including gasoline that did not contain MTBE.</p> <p><b>Undisputed</b> that Mr. O'Brien's report includes this comment.</p> <p><b>Irrelevant</b> to the extent that this statement relates to any market other than Puerto Rico.</p>

#### a. Manufacturer Capabilities

DEFENDANTS' UNDISPUTED MATERIAL FACTS AND ALLEGED SUPPORTING EVIDENCE	PLAINTIFF'S RESPONSE AND EVIDENCE
<p>4. Gasoline production at crude oil refineries is a complex process involving a number of different chemical processing units. Each unit performs a specific function in producing components that are subsequently blended together in varying proportions, depending on the particular grade of gasoline required. Important chemical processes employed at many refineries include catalytic reforming, catalytic cracking, isomerization, and hydrotreating, to name just a few. The final step in refining involves the blending of the various processed hydrocarbon streams to make finished products. (<i>Id.</i> at ¶¶ 15-16).</p>	<p><b>Undisputed</b> that crude oil refineries typically involve a number of different chemical processing .</p> <p><b>Undisputed</b> that defendants' refineries could have manufactured any "finished products" that they chose for the Puerto Rico market, including gasoline that did not contain MTBE.</p> <p><b>Undisputed</b> that Mr. O'Brien's report includes this comment.</p> <p><b>Irrelevant</b> to the extent that this statement relates to any market other than Puerto Rico.</p> <p><b>Disputed.</b> Puerto Rican refineries used catalytic crackers, which are a major component of "modern" refineries. The Shell</p>

	refinery at Yabucoa manufactured reformat, not gasoline and relied on the Peerless facility to blend finished gasoline because they did not have needed blending facilities. <i>See, e.g.,</i> Axline Decl. Ex. 5, Depo. of J. Lopez (11/12/13) at 61:20-62:12. The defendants also admit that this type of refinery operation did not occur at Phillips Puerto Rico Core, Inc. ("CORE") ( <i>See</i> Def.'s ¶8, <i>infra.</i> )
5. Only very rarely does an individual refinery-sourced stream, by itself, come close to meeting the requirements for commercial grade motor gasoline. Instead, production of gasoline, whether at the refinery, or at some other location, involves the controlled blending of the components available to the producer. Modern gasoline blending is typically a process in which a computer is used to calculate the correct ratio of components that must be mixed to optimize production and simultaneously satisfy all the gasoline grade specifications. In all cases, however, the blending process entails trade-offs between the properties of the different component streams to produce an aggregate blend that adequately meets all specifications for the final product grade. ( <i>Id.</i> at ¶ 20).	<p><b>Undisputed</b> that defendants controlled the composition of the gasoline that they provided to the Puerto Rico market.</p> <p><b>Undisputed</b> that defendants controlled the "specifications" of the product that they provided to the Puerto Rico market.</p> <p><b>Undisputed</b> that Mr. O'Brien's report includes this comment.</p> <p><b>Irrelevant</b> to the extent that this statement relates to any market other than Puerto Rico.</p>
6. Petrochemical plants produce streams such as raffinate, toluene, and several forms of xylene that can be used as gasoline blendstocks. Complex refineries can often have as many as ten or more different hydrocarbon streams and other blendstocks such as MTBE to choose from when deciding how to blend gasolines to satisfy the demand in the market being served. ( <i>Id.</i> at ¶ 16).	<p><b>Undisputed</b> that defendants chose which ingredients to include in the gasoline that manufactured for the Puerto Rico market.</p> <p><b>Undisputed</b> that defendants had alternative blendstocks that they could have used to manufacture gasoline instead of MTBE.</p> <p><b>Undisputed</b> that defendants could have used alternative octane enhancers, such as toluene and mixed xylenes, instead of MTBE.</p> <p><b>Undisputed</b> that Mr. O'Brien's report includes this comment.</p> <p><b>Irrelevant</b> to the extent that this statement relates to any market other than Puerto Rico.</p>
7. Some companies specialize in	<b>Undisputed</b> that Mr. O'Brien's report includes

<p>simply purchasing gasoline blending components, mixing them in appropriate proportions, and selling the finished gasoline into the marketplace. Such independent blenders have a number of sources of blending components: refineries, petrochemical producers, international oil traders, or independent terminal operators that store and resell components. Independent blending of this type occurs most frequently where regional refinery capacity is insufficient to meet local demand. At various times during the Relevant Period, gasoline supplied in Puerto Rico was sourced from both on-island and off-island refineries and/or gasoline blenders. (<i>Id.</i> at ¶ 17).</p>	<p>this comment.</p>
<p>8. Gasoline may also be produced at petrochemical facilities that process naphtha into aromatic-based petrochemicals. Such facilities produce various chemical by-products, as well as several high-octane aromatic streams, which, when combined with other purchased blending components, can produce specification-quality gasolines. This type of gasoline blending took place at the Phillips Puerto Rico Core, Inc. ("Core") petrochemical facility at Guayama until plant operations were discontinued in 2001. (<i>Id.</i> at ¶ 18).</p>	<p><b>Undisputed</b> that Mr. O'Brien's report includes this comment and undisputed that the Phillips Puerto Rico Core refinery at Guayama used a naphtha blending operation to produce gasoline until 2001. The remaining paragraph is <b>irrelevant</b> to Puerto Rico.</p>

## b. Other Factors Influencing Chemical Composition of Gasoline

### (i) Gasoline Specifications

DEFENDANTS' UNDISPUTED MATERIAL FACTS AND ALLEGED SUPPORTING EVIDENCE	PLAINTIFF'S RESPONSE AND EVIDENCE
<p>9. Gasoline specifications, <i>i.e.</i>, the physical and chemical characteristics that define a particular gasoline grade or quality, are established by industry standards (<i>e.g.</i>, American Society for Testing and Materials [ASTM] International Standard D-4814), federal and Puerto Rican regulatory requirements, and individual refiner limitations. Refiners and gasoline blenders manufacture gasoline to meet the specifications</p>	<p><b>Disputed in part and undisputed in part.</b></p> <p>Undisputed that gasoline produced in Puerto Rico had to conform to the octane rating listed on the dispenser and that gasoline manufacturers/sellers could not misrepresent the octane rating of the gasoline. Dispute the relevance this fact to any issue in the case. As Mr. O'Brien admitted, MTBE was never required for gasoline distributed to and within</p>

<p>applicable to the particular grade or quality demanded in their marketplace. Although there are approximately a dozen specifications used to measure gasoline quality, the two that are key in defining a gasoline's grade and quality are octane rating and vapor pressure. (<i>Id.</i> at ¶ 10).</p>	<p>Puerto Rico. (Axline Decl. Ex. 4, O'Brien Depo. (May 30, 2014) at 106:12-19.).</p> <p>Undisputed that gasoline in Puerto Rico had to meet vapor pressure standards. Historically, gasoline in Puerto Rico was produced at a wide range of octane ratings. Axline Decl. Ex. 4, Second Amended Expert Report of C. David Millican (5/16/14) at 31, ¶ 65.</p> <p>"Another example of why the Puerto Rico gasoline supply chain is not a highly fungible system is evidenced by the on-Island octane competition that began in the early 1990's. The majors on the Island began offering higher octane premium gasoline to customers in a marketing attempt to distinguish their brand and gain market share. A 93 octane unleaded premium was introduced by Esso, Shell &amp; Texaco early in the period while all the others continued with offering a 91 octane premium. Later, Shell introduced an 89 octane unleaded regular while the others in the market continued to offer the 87 octane unleaded regular." Axline Decl. Ex. 4, Second Amended Expert Report of C. David Millican (5/16/14) at 31, ¶ 64.</p> <p>"The fact that these companies began offering very different octane levels on the same grade of gasoline, the grade being unleaded regular or premium, is reason to have operated separately of one another." Axline Decl. Ex. 4, Second Amended Expert Report of C. David Millican (5/16/14) at 31, ¶ 65.</p>
<p>10. Octane Rating is the most important gasoline specification and, under federal law, it must be displayed on all retail service station pumps dispensing gasoline. In the simplest terms, the octane rating of a gasoline is a measure of its resistance to "knock" when used in a spark-ignition automobile engine. It is measured in laboratory test engines and is expressed numerically, with a higher number indicating a smaller likelihood of knocking. In Puerto Rico</p>	<p><b>Disputed, in part, and undisputed, in part.</b></p> <p>Undisputed that this comment is included in Mr. O'Brien's Report, but irrelevant to Puerto Rico.</p> <p>Disputed because gasoline in Puerto Rico was sold under a wide variety of octane ratings. Axline Decl. Ex. 4, Second Amended Expert Report of C. David Millican (5/16/14) at 31, ¶¶ 64, 65.</p>

two octane grades are typically marketed—regular and premium. A few marketers also sell what is called a mid-grade. ( <i>Id.</i> at ¶ 11).	Further, Plaintiff incorporates its response to ¶ 9, above.
11. Vapor Pressure is another key specification that affects a gasoline’s performance. Vapor pressure is a measure of the tendency of a gasoline to evaporate—to turn from a liquid into a vapor. Gasoline with too high a vapor pressure can be a source of air pollution when vapors (often referred to as volatile organic compounds [VOCs]) are inadvertently released into the atmosphere ( <i>e.g.</i> , during refueling). Refiners carefully control the vapor pressure of gasoline to meet engine requirements, climatic conditions, and environmental controls. ( <i>Id.</i> at ¶ 12).	<b>Undisputed.</b>

## (ii) Options to Meet Specifications

<b>DEFENDANTS’ UNDISPUTED MATERIAL FACTS AND ALLEGED SUPPORTING EVIDENCE</b>	<b>PLAINTIFF’S RESPONSE AND EVIDENCE</b>
12. Gasoline Blending Components include any and all of the various hydrocarbon materials (“blendstocks”) that are separated from crude oil at the refinery before being blended together by the refiner to produce motor gasoline. Blending components may also include various specialty streams or chemicals produced at the refinery and/or petrochemical facilities. Examples of such streams or chemicals include alkylate, isomate, aromatics, raffinate, and MTBE. In addition to refineries, motor gasoline can also be produced at gasoline blending terminals (referred to as “gasoline blenders”) that simply mix blending components together in the proper proportions to make marketable gasoline. Such gasoline blending was a common practice in Puerto Rico during the Relevant Period. ( <i>Id.</i> at ¶ 9).	<p><b>Disputed in part and undisputed in part.</b></p> <p>Undisputed that the Sunoco Yabucoa facility, Shell Yabucoa facility, and Phillips Puerto Rico Core Facility manufactured gasoline by blending. Disputed that most Puerto Rico refineries manufactured gasoline that did not contain MTBE.</p> <p><b>Peerless:</b> Edward Maciula, designated by Peerless as its Rule 30(b)(6) witness on Peerless’ manufacture of gasoline for Sunoco, testified that MTBE was never needed by Peerless to manufacture gasoline for Sunoco. Axline Decl. Ex. 5, Maciula Depo. (Oct. 22, 2014) at 55:2-7 and 57:9-17.</p> <p>In David Millican’s expert report for Esso (Puerto Rico), he described Puerto Rican refineries and made the following comments:</p> <p><b>Bayamon Refinery (Gulf):</b></p>

Millican described the operations of the Bayamon refinery which produced gasoline between 1979 and 2000, when the refinery was shut down. Axline Decl. Ex. 4, Second Amended Expert Report of C. David Millican (5/16/14) at ¶¶ 28-30. Millican then states “after 1992, the gasoline blended by the Bayamon Refinery is indicated to have contained no MTBE. For the period of 1990 through 1992, MTBE is indicated to have been on 4.9%, 5.3%, and 2.1% on average by volume respectively.” *Id.* at 17, ¶ 31.

**Guyama Petrochemical Facility/CORE Refinery:**

“During the period of 1979 to November 2000, Core operated a petrochemical facility located at Guyama. This same facility became known as Chevron Phillips Chemical Puerto Rico. The purpose of this facility was to produce specialty chemicals from a variety of units at the site. In doing so, low octane naptha, a gasoline blend component was produced as a by-product. This low octane naptha could be blended with very high octane blend products to produce finished gasoline in Puerto Rico. The documents indicate that, at times, Core imported MTBE for blending into motor gasoline at the site.” Axline Decl. Ex. 4, Second Amended Expert Report of C. David Millican (5/16/14) at 18, ¶ 33.

**Bayamon (San Juan) Terminal Facilities:**

“Documents indicate that for the period of 1995 through 1999 the gasoline production by CAPECO contained 0.0% MTBE and less than 0.5% by volume in the first half of 2000.” Axline Decl. Ex. 4, Second Amended Expert Report of C. David Millican (5/16/14) at 25, ¶ 47.

**Yabucoa Terminal Facilities:**

“The Yabucoa facility did not produce gasoline until a reformer unit was built in 1989. The Yabucoa refinery and terminal facilities were sold to Shell Chemical Yabucoa,

	<p>Inc.” Axline Decl. Ex. 4, Second Amended Expert Report of C. David Millican (5/16/14) at 26, ¶ 50.</p> <p>“During the period of 2002 mid 2008, Shell Chemical manufactured gasoline and sold finished motor gasoline via barge shipments. . . Shell Yabucoa batch reports indicate the gasoline production from the Yabucoa facility did not contain MTBE.” Axline Decl. Ex. 4, Second Amended Expert Report of C. David Millican (5/16/14) at 26, ¶ 51.</p>
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(iii) **Historical, Regulatory, and Market Conditions**

<b>DEFENDANTS’ UNDISPUTED MATERIAL FACTS AND ALLEGED SUPPORTING EVIDENCE</b>	<b>PLAINTIFF’S RESPONSE AND EVIDENCE</b>
<p>13. Beginning in 1923, research indicated that “lead” additives (primarily in the form of tetra ethyl lead—TEL), when introduced into gasoline in small quantities, could significantly “boost” the octane rating of the product. TEL was used as a gasoline additive until the lead phase-down of the 1970s. (<i>Id.</i> at ¶ 23).</p>	<p><b>Undisputed</b> that Mr. O'Brien included this comment in his report, but <b>irrelevant</b> to Puerto Rico and this case which does not concern lead gasoline production.</p>
<p>14. At the federal level, the 1963 Clean Air Act (CAA) and the 1965 Motor Vehicle Pollution Control Act set the stage for greater regulation of automobile emissions and gasoline composition throughout the nation. Such laws and acts applied equally to the Commonwealth. (<i>Id.</i> at ¶ 24).</p>	<p><b>Undisputed</b> that Mr. O'Brien's report includes this comment and undisputed that the Commonwealth of Puerto Rico is subject to federal laws concerning gasoline.</p>
<p>15. In 1970, Congress reauthorized the CAA and established the Environmental Protection Agency (the “EPA”). Under the new CAA, the EPA was authorized to establish National Ambient Air Quality Standards (NAAQS) for various classes of atmospheric contaminants, including those contained in automotive emissions. The 1970 CAA also called for the first automotive tailpipe emission standards to reduce CO, unburned hydrocarbons, and nitrogen oxides. It also established a schedule for the eventual</p>	<p><b>Disputed in part and undisputed in part.</b></p> <p>Undisputed that Mr. O'Brien's report includes this comment, but irrelevant because even as defendant's air quality expert witness admitted, there is no evidence that use of MTBE in gasoline distributed in Puerto Rico contributed to better air quality. Axline Decl. Ex. 4, 4/29/14 Deposition of Thomas Austin at 111:10-25.</p> <p>Undisputed that the Commonwealth met all</p>

<p>reduction of the gasoline lead content from a permitted maximum of 3.17 grams per gallon to no more than 0.5 grams. Studies had shown that airborne lead from vehicle exhausts represented a potential human health hazard. (<i>Id.</i> at ¶ 25).</p>	<p>applicable U.S. Air Quality standards during the time period that they were enforced.</p> <p>The Commonwealth was a non-attainment area. Even defendants own air quality expert, Thomas Austin, admitted there is no evidence that Puerto Rico was a non-attainment area and Austin admitted that Puerto Rico did not need to use any oxygenate in its gasoline at any time. Axline Decl. Ex. 4, 4/29/14 Depo. of T. Austin at 51 (“Q: Did anyone ever require MTBE’s use in Puerto Rico? A: No.”).</p>
<p>16. The 1973 Arab Oil Embargo was a watershed geopolitical event that had wide ranging effects on not only the petroleum industry, but also on the automobile industry and consumers alike. Within the space of a few months, there was a five-fold increase in the world price of crude oil, with corresponding increases in the prices of gasoline and other refined products. This “price shock” highlighted the vulnerability of the nation’s oil supply to control by foreign interests and spurred initiatives to reduce dependence on imported oil. One initiative was encompassed in the 1975 Energy Policy and Conservation Act, which established fuel economy standards for new cars beginning in 1978. Under these regulations, referred to as the Corporate Average Fuel Economy (CAFE) standards, automobile manufacturers were required to produce vehicle fleets meeting increasingly stringent average fuel economy limits. (<i>Id.</i> at ¶ 26).</p>	<p><b>Undisputed, but irrelevant.</b></p> <p>Undisputed that Mr. O'Brien's report includes this comment, but irrelevant because the Arab Oil Embargo and related events in 1973 pre-date the introduction of MTBE into Puerto Rico by more than a decade.</p>
<p>17. A key strategy employed by automobile manufacturers to comply with the tailpipe emissions requirements was the use of catalytic converters. These devices, which comprised metal canisters installed on the exhaust system, were designed to chemically reduce exhaust pollutants. Catalytic converters were first installed on new cars in 1975 and continue in use today. Because the platinum-based catalyst in these converters is “poisoned” by lead, the mandatory and widespread</p>	<p><b>Undisputed, but irrelevant.</b></p> <p>Undisputed that Mr. O'Brien included this comment in his report, but irrelevant because there is no evidence that MTBE was added to Puerto Rico gasoline in 1975 when unleaded gasoline was introduced.</p> <p>Further, Plaintiff incorporates its response to paragraph ¶20, <i>infra</i>.</p>

<p>availability of unleaded gasolines was timed to correspond with the introduction of the 1975 vehicles. The introduction of this new gasoline grade required not only refinery modifications, but also the addition of separate handling and storage facilities to prevent the mixing of unleaded with leaded gasoline. Although the initial unleaded gasoline demand was relatively small, as newer cars replaced older ones, the demand increased nationwide, both on the mainland and in Puerto Rico. Increasing demand for unleaded gasoline forced refiners to find new ways to replace the gasoline octane “boost” previously provided by the addition of TEL. (<i>Id.</i> at ¶ 27).</p>	
<p>18. Engine design changes that improved fuel economy, including advancing the spark timing and raising compression ratios, also raised octane requirements. From the refiners’ perspective, such changes exacerbated the octane shortage that was being experienced due to the gradual removal of lead additives. (<i>Id.</i> at ¶ 28).</p>	<p><b>Disputed in part and undisputed in part.</b> Undisputed that Mr. O'Brien included this comment in his report, but disputed as incomplete.</p> <p>In Puerto Rico, defendants Exxon, Shell, Chevron, Texaco and Sunoco introduced premium gasoline with an octane rating of 93. Axline Decl. Ex. 4, Second Amended Expert Report of C. David Millican (5/16/14) at 31, ¶ 64.</p> <p>This practice artificially exacerbated the need to add octane to gasoline and refutes any claim that Puerto Rican refiners were responding to an “octane shortage” <i>See, e.g.</i>, Axline Decl. Ex. 6 (Depo. Ex. 9 of 5/06/14 Deposition of Ricardo Casas, “Proposed Term 1994 Mogas Supply for Puerto Rico, Bates No. XOM-PR-FILES-SUPP-529707 (“Esso Puerto Rico marketing strategy is to implement 93 Unleaded mogas into Puerto Rico beginning 2Q94. Strategy seeks introduction advantage such that wide canvassing of market not advisable.”)).</p> <p><i>See also</i> Axline Decl. Ex. 4, Second Amended Expert Report of C. David Millican (5/16/14) at 31, ¶¶ 64, 65.</p>
<p>19. MTBE was introduced commercially as an octane enhancer in 1979, after the EPA registered the use of up to 7</p>	<p><b>Undisputed.</b></p>

Vol.% MTBE in gasoline. ( <i>Id.</i> at ¶ 30).	
<p>20. By 1981, in addition to MTBE, a number of other octane enhancers had been successfully registered with, and accepted by, the EPA for use in unleaded gasoline. These included tertiary butyl alcohol ("TBA"), blends of methanol with co-solvents, and certain other alcohols. However, each of these alternatives was either: (1) not available in sufficient quantities; (2) not cost effective; (3) not suitable from a product safety standpoint; and/or (4) not easily integrated into the existing distribution and marketing infrastructure. MTBE had none of these problems. However, the material of choice for any individual refiner or blender often came down to the refiner's process configuration, the gasoline market being served, the cost and availability of competing materials for refiners or blenders, and the competitive environment. (<i>Id.</i> at ¶ 31).</p>	<p><b>Disputed.</b></p> <p>The leading industry organization for oxygenated fuels formed an "MTBE Committee" and on February 27, 1987, George Dominguez, Executive Director of Oxygenated Fuel Association sent a letter to Ms. Beth Anderson at the United States Environmental Protection Agency and pronounced: "The following discussion establishes that there is no evidence that MTBE poses any significant risk of harm to health or the environment, that human exposure to MTBE and release, of MTBE to the environment is negligible, that sufficient data exists to reasonably determine or predict that manufacture, processing, distribution, use and disposal of MTBE will not have an adverse effect on health or the environment, and that testing is therefore not needed to develop such data. Furthermore, issuance of a test rule requiring long term chronic testing will have a significant adverse environmental impact because it will inhibit additional investment in MTBE plants." Axline Decl. Ex. 1 (2/27/87 Letter from G. Dominguez to B. Anderson).</p> <p>Defendants' own employees, who were experts in the field, believed that MTBE should not be added to gasoline because of the environmental impacts and increased environmental clean-up costs:</p> <p><b>Shell</b> - Curt Stanley, a senior hydrogeologist employed by Shell, stated in a November 3, 1998 email "My professional opinion is that MTBE and similar oxygenates should not be used at all in areas where groundwater is a potential drinking water supply. If it is used, engineering design and site operations (including active subsurface monitoring) should be carefully developed to minimize the potential for a release." Axline Decl. Ex. 1, 11/03/98 E-mail correspondence from C. Stanley to JF Pedley (Bates No. EQ033388-</p>

89). He explained the basis for his opinion in the same email. "1) Very small releases of MTBE (even small overfills seeping into cracks in the pavement) have the potential to adversely impact groundwater 2) Based on engineering reliability studies, it is likely that a high percentage of sites using MTBE, have a soil and/or groundwater problem. This problem is not just the result of leaking tanks, lines, fills, and dispensers, but is also a result of certain operations . . . 6) Once in groundwater, MTBE is extremely difficult to remediate." *Id.*; See ¶ 62, *infra*.

The high cost of dealing with MTBE contamination was acknowledged by experts throughout the United States. For example, Curt Stanley of Shell described a meeting of the executives who are responsible for state funds used to clean up gasoline contamination. He stated: "I attended the National Trust Fund Managers Conference this Summer. The biggest issue for most of the state program manager is MTBE (oxygenates). These state managers are worried that MTBE problems may bankrupt their funds (not to mention the oil companies)" Axline Decl. Ex. 1, 9/24/97 E-mail Correspondence from C. Stanley to JC Doce, et al. (Bates No. EQ033658-59).

**Exxon** - Exxon considered adding MTBE to its gasoline. As part of its decision making process, Exxon asked its environmental engineers and hydrogeologists to provide their opinion concerning the use of MTBE in gasoline. Barbara Mickelson, who prepared the report responding to that request on behalf of the Environmental Engineering Department, stated: "As a result, we recommend that from an environmental risk point of view, MTBE not be considered as an additive to Exxon gasolines on a blanket basis throughout the United States." Axline Decl. Ex. 1, 4/19/85 Memorandum from B.J. Mickelson to J.Mixer (Bates No. EX EnFI00050). She drafted several memos that explain in detail that

MTBE is likely to cause contamination of drinking water and be particularly expensive to remediate. *Id.* at 8/23/84 Memorandum from B.J. Mickelson to V.M. Dugan (Bates No. EX EnFI00048-49); *see also* ¶ 63, *infra*.

**Chevron** - Al Jessel, a Chevron Products Company executive, testified before the EPA Blue Ribbon Panel on March 26, 1999 on behalf of his employer. He presented a PowerPoint slide to the EPA which states: "What Constitutes an Environmental Concern? One View: If a component – Is significantly soluble in water; -- Doesn't naturally degrade in the environment; -- Has low odor and taste thresholds in water; Then – It is probably not suitable as a gasoline blend stock MTBE, other ethers, and heavier alcohols fit this definition." Axline Decl. Ex. 1 10/27/00 Depo. of A. Jessel in *South Tahoe Public Utility District v. Atlantic Richfield*, Depo. Ex. 6 (Bates No. CH1AJ001521, 23). The witness also stated: "It is very unlikely that Chevron would consider putting anything into gasoline which has these characteristics based on the public reaction that we got to having MTBE in our gasoline." Axline Decl. Ex. 1 10/27/00 Depo. of A. Jessel in *South Tahoe Public Utility District v. Atlantic Richfield*, at 91.

An executive with Chevron wrote a letter to all Chevron regional managers which states: "MTBE on the other hand is a different situation. The solubility of benzene in water is 1,800 parts per million (ppm), while the solubility of MTBE in water is 43,000 ppm! The dissolved plume that results from a leak into groundwater is directly related to the solubility in water of the chemical. The higher the solubility the larger the plume and the faster it will migrate. When MTBE gets into the water then the trouble really starts." Axline Decl. Ex. 1, 8/12/91 Memorandum from J.L. Koerber to Regional Managers re: MTBE Effect (Bates No. CHEV 09564).

	<p><b>Tosco</b> (now merged with Conoco Phillips) - The Vice President of one of the largest refiners of gasoline in California (Tosco) notified the California Air Resources Board that "We believe that responsible action should be taken sooner rather than later to allow the reduced use or elimination of MTBE in gasoline. Our call to action is based on growing evidence of the potential for extensive MTBE contamination that could occur and the resulting liability the state, and ultimately our citizens, could face to restore California drinking water supplies." Axline Decl. Ex. 1, 10/17/97 Letter from D. Bordvick to J. Dunlop.</p> <p>Later, Tosco advised the California Legislature in a hearing on November 21, 1997, that "[w]ithout much dispute, MTBE has physical characteristics that cause it to get into water more easily and stay longer. . . Scientists may spend years debating the potential health impact of MTBE but it seems to us the ballgame is over if your drinking water smells or tastes bad. Finally, we cannot ignore the extent of public concern over MTBE, the growing perception that MTBE is undesirable, and the realization that perception often becomes reality" Axline Decl. Ex. 1, 8/12/91 "Statement of Tosco Corporation Before the Assembly Committee on Natural Resources" (11/21/97) (Santa Monica, CA).</p> <p>Further, Puerto Rican refiners made gasoline that did not contain MTBE with notable exceptions such as CORE. Plaintiff incorporates its response to ¶12, <i>supra</i>.</p>
<p>21. In the period 1978-1979, the Iranian Revolution almost tripled the price of crude oil. This second price shock set the stage for even more significant changes in the character of the oil industry. By 1982, as a result of higher energy costs, consumers began to make fundamental changes in their demand patterns. Demand for refined products fell</p>	<p><b>Undisputed</b> that Mr. O'Brien's report included this comment, but irrelevant because there is no evidence linking the Iranian Revolution with any decision to use MTBE in Puerto Rico.</p>

<p>dramatically and the refining industry found itself in a period of significant oversupply. Refining economics changed and many refineries were forced to close. The refining industry continued in a period of oversupply throughout the 1980s and well into the 1990s. (<i>Id.</i> At ¶ 32).</p>	
<p>22. The process of totally eliminating lead additives from gasoline was long and complex. In the early 1980s, the EPA took steps to completely eliminate lead additives from motor gasoline. The final EPA regulations, which were promulgated in 1985, required all but a small amount of lead to be removed from gasoline by January 1, 1986. Although lead additives were not totally banned from gasoline until 1995, the quantity of leaded gasoline sold in the U.S., including Puerto Rico, was very small after the mid-1980s. (<i>Id.</i> At ¶ 33).</p>	<p><b>Undisputed that Mr. O'Brien's report includes this comment, but irrelevant to Puerto Rico.</b></p>
<p>23. The EPA's eventual total ban on lead additives stimulated the demand for alternative octane enhancers. Other than in the Midwest, where ethanol supplies were readily available, MTBE became the preferred choice of most refiners and blenders for a number of important reasons. Prior to the introduction of new cleaner-burning RFG gasoline in 1995, MTBE was typically used as an octane enhancer in conventional gasolines in a concentration in the range of 1-7 Vol.%. The availability and cost of MTBE compared to other blending options available to individual gasoline producers determined the actual quantity used. Premium gasolines usually contained more MTBE than regular gasoline because of MTBE's high-octane characteristics. (<i>Id.</i> At ¶ 34).</p>	<p><b>Disputed in part and undisputed in part.</b></p> <p>Disputed. There is no evidence that the pattern of MTBE use in Puerto Rican gasoline changed because of a "total ban on lead additives."</p> <p>Dispute that ethanol was ever considered for use in Puerto Rico; even defendants' expert John O'Brien conceded that there is no evidence that ethanol was blended into gasoline in Puerto Rico. Axline Decl. Ex. 4, Expert Report of John O'Brien at 19, ¶¶39-41, n. 25.</p> <p>Undisputed that premium gasolines usually contain more MTBE than regular gasoline, particularly when the premium gasoline had an octane rating of 93.</p> <p>Plaintiff incorporates ¶¶ 74-77, <i>infra</i>.</p>
<p>24. When lead additives were removed from gasoline, just as mainland suppliers were forced to seek out alternatives to lead, producers supplying Puerto Rico had to make their own decisions as to how to</p>	<p><b>Disputed.</b></p> <p>Plaintiff incorporates ¶¶ 74-77, <i>infra</i>.</p>

<p>replace the lost octane. The same factors that posed obstacles to ethanol's use on the U.S. mainland would have been issues in Puerto Rico as well, including ethanol's affinity for water, which impeded shipping gasoline pre-blended with ethanol in barges or ocean vessels, the need for the production of a sub-octane base gasoline if fuel ethanol were to be shipped to the island, and the need for installation of ethanol storage and blending facilities at each terminal. In contrast, MTBE's high octane, ease of handling, ready availability, and cost effectiveness, made it a preferable octane replacement over ethanol. (<i>Id.</i> At ¶ 35).</p>	
<p>25. On November 15, 1990, the U.S. Congress passed the 1990 CAA Amendments (the "1990 CAAA"). The new regulations mandated the use of specified oxygenate volumes, not only in RFG, but also in conventional gasolines marketed at certain times of the year and in certain geographic areas where CO pollution was a particular problem. The requirement for oxygenated fuel in specified CO non-attainment areas commenced during the winter season of 1992-1993. Then, effective January 1, 1995, the federal RFG program mandated the year-round sale of RFG in nine specified metropolitan areas—which comprised about 35% of total U.S. gasoline demand. (<i>Id.</i> At ¶ 36).</p>	<p><b>Disputed.</b></p> <p>MTBE was never required as an additive or oxygenate in Puerto Rico. Even defendant's expert, John O'Brien admits MTBE was never required in Puerto Rico. Axline Decl. Ex. 4, O'Brien Depo. (May 30, 2014) at 106:12-19.</p> <p>In fact, defendants' expert, John O'Brien, denied that any manufacturer or refiner had to utilize MTBE for gasoline sold to or distributed to Puerto Rico. Axline Decl. Ex. 4, O'Brien Depo. (May 30, 2014) at 110:4-13.</p>
<p>26. The 1990 CAAA and the implementation of the RFG program resulted in a new large requirement for oxygenates to comply with the regulations. The new oxygenate demand necessitated the construction of many new MTBE production facilities, both at refineries, and at large standalone plants along the U.S. Gulf Coast, where butane feedstock was readily and economically available. Some ethanol expansion also occurred in the Midwest, but it was at a severe disadvantage to MTBE in RFG areas because its use significantly raised the gasoline RVP. If a refiner chose to use ethanol to make RFG, it first had to make a specially</p>	<p><b>Disputed.</b></p> <p>Puerto Rico was never a non-attainment area and was never required to use "oxygenates to comply with the regulations." In fact, both Mr. O'Brien and Mr. Austin (defendants' air quality expert) admitted that Puerto Rico was never required to use MTBE and never had air quality problems that caused it to be out of compliance with air quality standards. Axline Decl. Ex. 4, O'Brien Depo. (May 30, 2014) at 106:12-19.); Axline Decl. Ex. 4, Austin Depo. at 51.</p> <p>Plaintiff incorporates its response to ¶ 25, above.</p>

<p>formulated low RVP blend. Not only was this special blend more expensive to make, but many refiners did not have the capacity to produce it in large volumes. MTBE's high-octane rating was a significant factor in allowing refiners to adjust the quantities of other blending components to meet the stringent RFG requirements. (<i>Id.</i> At ¶ 37).</p>	
<p>27. The Commonwealth has always been what is called a conventional gasoline market, and has never participated—voluntarily or involuntarily—in either the RFG program or the wintertime oxygenate program for CO non-attainment areas. Thus, any appearance of MTBE in gasoline supplied to Puerto Rico would have been related either to its use as an octane enhancer or to incidental contact with RFG gasoline at some point in the supply chain. (<i>Id.</i> at ¶ 38).</p>	<p><b>Undisputed.</b></p>
<p>28. In August 2005, the federal government passed the Energy Policy Act of 2005, incorporating the first RFS. Starting in May 2006, the RFS mandated that certain minimum volumes of ethanol be used annually in the U.S fuel supply and eliminated the requirement that oxygenates be used in RFG. In December 2007, the Energy Independence and Security Act of 2007 further increased the RFS requirements for the blending of fuels from renewable sources. The effect of the current RFS has been to require the inclusion of 10 Vol.% of ethanol in virtually all gasoline marketed in the U.S., both RFG and conventional. (<i>Id.</i> At ¶¶ 39-40).</p>	<p><b>Disputed.</b></p> <p>Dispute that ethanol was ever considered for use in Puerto Rico; even defendants' expert John O'Brien conceded that there is no evidence that ethanol was blended into gasoline in Puerto Rico. Axline Decl. Ex. 4, Expert Report of John O'Brien at 19, ¶41, n.25.</p> <p>Dispute that any federal statute ever required Puerto Rico to use MTBE in its gasoline. Even defendants' expert, Mr. O'Brien, admitted, that MTBE was never required for gasoline distributed to and within Puerto Rico. Axline Decl. Ex. 4, O'Brien Depo. (May 30, 2014) at 106:12-19; Axline Decl. Ex. 4, 4/29/14 Depo. of T. Austin at 51.</p> <p>Plaintiff incorporates its response to ¶¶ 25, 26.</p>
<p>29. According to the federal renewable fuels regulations, a U.S. territory has the option of being part of the RFS program or not. Puerto Rico has chosen not to be part of the program. (<i>Id.</i> at ¶ 41).</p>	<p><b>Undisputed.</b></p>

**Manufacturers' "Design" Decisions and Safer, Feasible Alternative**

<b>DEFENDANTS' UNDISPUTED MATERIAL FACTS AND ALLEGED SUPPORTING EVIDENCE</b>	<b>PLAINTIFF'S RESPONSE AND EVIDENCE</b>
<p>30. Generally, to understand a manufacturer's decision to add MTBE to gasoline intended for sale in Puerto Rico during the RFG era when oxygenates were generally required, but Puerto Rico was a non-RFG area, one would have to know "the supply situation specific to Puerto Rico and who was making the gasoline and the specifics of the facilities being made at." (<i>Dillon Dec. Ex. 12</i> (Eizember Dep. Tr. at 17-18); <i>id.</i> at 39, 43-45 (discussing considerations of mixing products and volatility specifications); <i>Dillon Dec. Ex. 2</i> (Scharre Rpt., ¶ 22 ("It should be remembered that gasoline has no standard chemical composition."), ¶¶ 19-20 (manufacturing processes at CORE are fluid, changing from year-to-year); <i>Dillon Dec. Ex. 10</i> (Stern Rpt.), ¶¶ 83, 92, 109-14.)</p>	<p><b>Undisputed, but irrelevant.</b></p> <p>MTBE was never required for gasoline distributed to and within Puerto Rico. Axline Decl. Ex. 4, O'Brien Depo. (May 30, 2014) at 106:12-19.</p> <p>In Puerto Rico, there were alternative additives to use in gasoline other than. Axline Decl., Ex. 2, Expert Report of Bruce F. Burke (Jan. 22, 2014) at 4, ¶ 12. <i>See also</i> Axline Decl. Ex. 5, 9/25/13 Depo. of Juan Perez at 36:23-37:1, 55:14-24 (testifying that there were other options to boost octane of blendstock that could be available from different sources").</p> <p><i>See infra</i> ¶¶ 66-73.</p>
<p>31. Plaintiffs' sole expert touching on issues of gasoline production, Bruce Burke, has acknowledged that there are multiple blendstocks that could have been utilized to produce on-specification gasoline. (<i>Dillon Dec. Ex. 13</i> (Burke Rpt. at 4) ("In my professional experience, this is typical of gasoline manufacturing, in that a number of blendstocks can and are used to produce on-specification gasoline.").</p>	<p><b>Undisputed</b> that Mr. Burke is the Commonwealth's only retained expert in this topic.</p> <p>The Commonwealth also will rely on gasoline production evidence from defendants' own experts, employees and documents. Plaintiff incorporates its response to paragraphs 12, 30.</p>
<p>32. Mr. Burke was retained solely to opine as to whether or not MTBE or TBA was present in gasoline manufactured by Core between June 1982 and May 2000 and, if so, the MTBE or TBA content of such gasoline. (<i>Dillon Dec. Ex. 1</i> (Burke Dep.), at 11.)</p>	<p><b>Disputed.</b></p> <p>Mr. Burke was designated as an expert in "Motor Fuel Refining, Additives and Distribution."</p>
<p>33. Mr. Burke admits that his opinions are limited to the manufacture of gasoline at the Core facility during the relevant</p>	<p><b>Disputed.</b></p> <p>Mr. Burke has several opinions in this case.</p>

period, and do not extend to an analysis of any other manufacturer of gasoline supplied or sold in Puerto Rico. ( <i>Dillon Dec.</i> , Ex. 1 at 180, 182, 271.)	Mr. Burke looked at the use of MTBE at the CORE facility, and his opinions and analysis are relevant to other manufacturers of gasoline supplied or sold in Puerto Rico.
34. Mr. Burke admits that he has undertaken no analysis of the economics of Core's operations, ( <i>id.</i> at 182); no analysis of the gasoline specifications for Puerto Rico, ( <i>id.</i> at 240); no analysis of the market for alternative aromatics of other components to replace MTBE during the relevant time period, ( <i>id.</i> at 94-95, 268-69); no analysis of the feasibility of ethanol, toluene, benzene, alkylytes, aromatics or iso-octane as alternative to MTBE, ( <i>id.</i> at 158-60, 257, 269-71, 273-74); no analysis of Core's gasoline production after May 2000, ( <i>id.</i> at 183-84); no analysis of other blendstocks imported to Core during the relevant period, ( <i>id.</i> at 203-04, 219-22); no review of linear programming analyses to evaluate other octane-enhancing components available to Core (to replace lead) at its facility, ( <i>id.</i> at 267).	<b>Disputed in part; undisputed, in part, but irrelevant.</b>  Defendants' assertion of what Mr. Burke was not offered for is irrelevant.  Dispute that expert testimony on the topics listed are required or material.  Undisputed that Mr. Burke was not offered for the narrowly stated issues in paragraph 34. Plaintiff incorporates its response to paragraph 32.
35. Finally, Mr. Burke is not "offering any opinions on which alternate octane boosters CORE should have used rather than MTBE." ( <i>Id.</i> at 275, 278).	<b>Disputed in part; undisputed, in part, but irrelevant.</b>  Defendants' assertion of what Mr. Burke was not offered for is irrelevant.  Dispute that expert testimony on the topics listed are required or material.  Undisputed that Mr. Burke was not offered for the narrowly stated issues in paragraph 35. Plaintiff incorporates its response to paragraph 32.

### Warnings Concerning Gasoline

<b>DEFENDANTS' UNDISPUTED MATERIAL FACTS AND ALLEGED SUPPORTING EVIDENCE</b>	<b>PLAINTIFF'S RESPONSE AND EVIDENCE</b>
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<p>36. Defendants' proffered expert, Paul Frantz, is an expert in the field known as Human Factors Engineering. Professionals in the field of Human Factors develop opinions about the appropriateness of warnings messages and the potential effects of various messages by using elements of communication theory, experimental psychology related to human information processing and performance, standards and recommended practices related to warnings and instructions, and research and practical publications specifically related to product warnings. (<i>See, e.g., Dillon Dec. Ex. 14</i> (Frantz Rpt. (1/23/2014)), at 5.)</p>	<p><b>Undisputed, but irrelevant.</b></p>
<p>37. In 1983, the Occupational Safety and Health Administration (OSHA) published a Hazard Communication Standard to ensure that information about the physical and health hazards of workplace chemicals would be communicated to employers and employees (OSHA, 1983). As part of these requirements, chemical manufacturers and importers were required to obtain or develop material safety data sheets (MSDSs) for hazardous chemicals they produced or imported, and employers were required to have an MSDS for each hazardous chemical used in their workplace. OSHA's Hazard Communication Standard (29 CFR 1910.1200) specified informational elements to be included in MSDSs including chemical identity, ingredients (if required by 29 CFR 1910.1200(g)(2)(i)), physical and chemical characteristics, physical and health hazards, primary routes of entry, exposure limits, carcinogenicity classification, precautions for safe handling and use, generally applicable control measures, and emergency and first aid procedures. (<i>Id.</i> at 47).</p>	<p><b>Undisputed, but irrelevant.</b></p>
<p>38. The Puerto Rico Occupational Safety and Health Administration (PROSHA) began operating in 1978. This agency has adopted identically all Federal OSHA standards and regulations applicable to public and private sector employment. (<i>Id.</i>)</p>	<p><b>Undisputed, but irrelevant.</b></p>

39. The U.S. Consumer Product Safety Commission (CPSC) began publicizing gasoline safety messages shortly after its founding in the early 1970s, coincident with the gasoline supply crises that occurred in that decade. One of these early publications was called “Gasoline is Made to Explode” and showed a metal safety can and also contrasted placing a non-safety can in the trunk of an automobile with dynamite. ( <i>Id.</i> at 52-53).	<b>Undisputed, but irrelevant.</b>
40. The CPSC further discussed their selection of gasoline safety messages after having been petitioned to regulate portable gasoline containers in 1978. CPSC staff developed recommended safety messages based upon the Federal Hazardous Substances Act (FHSA) (see 74 Stat 372 and 16 CFR 1500). The FHSA mandated certain labeling depending on a package’s contents. The FHSA predated the CPSC itself by over a decade, and the CPSC noted that many portable gasoline container manufacturers were using the FHSA regulations as a guideline for labeling their portable gasoline containers, although such labeling was not mandatory because FHSA labeling did not apply to empty containers. ( <i>Id.</i> )	<b>Undisputed, but irrelevant.</b>

#### **Lack of Evidence on Failure to Warn**

<b>DEFENDANTS’ UNDISPUTED MATERIAL FACTS AND ALLEGED SUPPORTING EVIDENCE</b>	<b>PLAINTIFF’S RESPONSE AND EVIDENCE</b>
41. Marcel Moreau is Plaintiffs’ only expert that addresses “warnings.” Mr. Moreau opined that that the “oil marketing industry could have provided warnings concerning the threat to groundwater posed by MtBE.” ( <i>See, e.g., Dillon Dec. Ex. 4</i> (“Moreau Rpt. (12/6/2013)”), at 7.)	<b>Disputed as incomplete.</b>  Moreau testified about “the knowledge of defendants concerning MtBE and what they did or did not do with regard to that knowledge.” His opinions were not about the science of “warnings.” Axline Decl. Ex. 2, Moreau Rebuttal Report (2/28/14) at 45.
42. Mr. Moreau admits that he has never been qualified as an expert on the effectiveness of warning, does not hold himself	<b>Undisputed in part and disputed in part.</b>  Undisputed that Marcel Moreau is a

<p>out as an expert on the language that should be employed to communicate hazards, and does not consider himself an expert on how to modify behavior through warnings. (<i>See, e.g., Dillon Dec. Ex. 5</i> (“Moreau Dep. (5/14/14)”), at 85:20-88:10.)</p>	<p>“nationally recognized expert in underground petroleum storage systems” who has dedicated his career to “the petroleum storage field, chiefly in the areas of regulation, storage system design, leak detection technology, and regulatory compliance assessment,” Axline Decl. Ex. 2, Moreau Report at 1.</p> <p>Dispute that an expert on the areas stated in this paragraph is required or relevant. Axline Decl. Ex. 2, Moreau Rebuttal Report at 45 (rebutting defendants’ expert, Moreau stated, “Dr. Frantz’ opinions, as well as his background and experience, focus on ‘consumer’ warnings addressed to users of a product, while my target audiences are the business owners and workers who deliver, store, and sell the product and service the equipment that is used to store and dispense the product.” Axline Decl. Ex. 2, Moreau Rebuttal Report, 2/28/14, at 45.</p>
<p>43. Mr. Moreau has not attempted to craft an “adequate” warning in this case and, furthermore, admits that his definition of “warning” is just “the dictionary definition, not the definition that seems to be ... current among warnings experts.” (<i>Id.</i> at 52:10-53:11).</p>	<p><b>Disputed.</b></p> <p>Mr. Moreau used an appropriate definition of “warning”:</p> <p>“My definition of warning includes steps to take to prevent releases of gasoline from happening, detect releases effectively, and remediate releases efficiently when releases do happen. My definition of warning includes information concerning engineering solutions such as secondary containment, MtBE-specific leak detection, and pre-installed remediation systems.” Axline Decl. Ex. 2, Moreau Rebuttal Report, 2/28/14, at 46.</p> <p>As discussed by Mr. Moreau in his deposition, “The method, it seems to me, is one of logic. All right? We identify a problem. We identify some solutions. The people who identify the solutions happen to be the ones who are making and selling this stuff. Then doesn’t it make sense that the people making and selling this stuff should be telling the people they’re providing it to how to use it?” Axline Decl. Ex. 2 (5/15/14 Depo. of M. Moreau at 535.)</p>

	<p>Mr. Moreau has testified and will explain to a jury that the “training and education [that] would have been required to convey the complete ‘warning’ message” necessary to minimize MTBE contamination must go far beyond the “position, lettering, coloring, and language” of warning stickers. “A concise statement of the issue such as the “Don’t spill a drop” slogan . . . would have been useful as a concise statement of the goal of the program, but such a slogan would not convey the information required to meet that goal.” “It is the science of ‘learning’ that is much more relevant to the challenge of teaching UST workers how to properly store, handle and dispense MTBE gasoline.” Axline Decl. Ex. 2, Moreau Rebuttal Report, 2/28/14, at 46, 48.</p> <p>Moreau explained that the “target audiences are the business owners and workers who deliver, store, and sell the product and service the equipment that is used to store and dispense the product,” and not consumer warnings. Axline Decl. Ex. 2, Moreau Rebuttal Report, 2/28/14, at 45.</p> <p><i>See also</i> ¶ 116, 117.</p>
<p>44. Mr. Moreau has “never attempted to quantify the reduction in releases that may have occurred as a results the warning or training and education being provided.” (<i>Id.</i> at 56:11-21.) When asked if he had an opinion on that question, he stated only that “it could have been some reduction.” (<i>Id.</i> at 56:23-57:5.)</p>	<p><b>Disputed.</b></p> <p>Mr. Moreau testified that he had not attempted to quantify the reduction in releases that may have occurred as a result of warnings or training because, “[w]arnings are not standalone . . . . The warnings have to go along with other technologies to more effectively contain MTBE: Methodologies for early detection and remediation of MTBE, campaign widely for improved handling of MTBE in gasoline. So that’s some of the content that would have been part of training and education.” Axline Decl. Ex. 2, 5/14/14 Deposition of Marcel Moreau at 57.</p> <p>And further, “A warning such as don’t spill is not -- you know, that would be sort of the goal, but that’s not the warning. That’s not</p>

	<p>the message. The message is that you have to improve your handling of MTBE gasoline, and how to do that is the specific content that I had in mind.”</p> <p>Axline Decl. Ex. 2, 5/14/14 Deposition of Marcel Moreau at 58.</p>
<p>45. Finally, in the context of discussing the potential for reduction of releases by additional warning, Mr. Moreau admitted that “warnings are not standalone,” but rather “have to go along with other technologies....” (<i>Id.</i> at 57:6-58:10).</p>	<p><b>Undisputed.</b> Further, Plaintiff incorporates it’s response to Paragraphs 43 &amp; 45.</p>

### The Commonwealth’s Knowledge of the Characteristics of MTBE

<b>DEFENDANTS’ UNDISPUTED MATERIAL FACTS AND ALLEGED SUPPORTING EVIDENCE</b>	<b>PLAINTIFF’S RESPONSE AND EVIDENCE</b>
<p>46. In 1997, EQB employees attended the EPA’s National UST Conference where the hazards and risks of MTBE were discussed in several presentations. (<i>Dillon Dec.</i> Ex. 16 (“1997 LUST Conf. Excerpts”) at NJDEP-MTBE-KRATINADEP-03348, 03368, 03374, 03384, 03400).</p>	<p><b>Undisputed, but irrelevant.</b> <i>See, e.g., In re MTBE</i> (City of New York), 725 F.3d 65, 124 n.45 (2d Cir. 2013) (“We reject Exxon’s argument that it had no duty to warn the City about the dangers of MTBE because, by 1997, the City was aware of these dangers. Exxon began using MTBE in its gasoline long before 1997, and the City’s eventual knowledge did not relieve Exxon of its duty to provide adequate warnings before 1997 (to say nothing of its continuing duty to warn gas station owners).”</p>
<p>47. This was conveyed to the EQB’s Director of Water Quality, Roberto Ayala, who surveyed gasoline suppliers on-island and learned in 1997 that gasoline was marketed in Puerto Rico. (<i>Dillon Dec.</i> Ex. 17 (“Ayala Dep.”) at 143-46).</p>	<p><b>Disputed in part and undisputed in part.</b></p> <p>Undisputed that the testimony cited states the EQB took preliminary steps to assess MTBE contamination of groundwater, but dispute the remaining paragraph and dispute that the cited testimony states what is in the asserted fact.</p> <p>In 2000, the legislature required an investigation about the presence of MTBE in gasoline and as part of the legislative mandate, the gasoline distribution companies Esso, Shell, Gulf and Texaco were asked to submit presentations regarding MTBE. After the investigation and submissions by the gasoline companies and</p>

	<p>others, the Puerto Rico Chamber of Representatives found: "The new federal and local requirements related to the storage of gasoline, where underground storage tanks are practically encapsulated, reduce the possibility of contamination by MTBE, so that we understand it is not necessary to take additional measures for now, except continue with periodic legislative monitoring." Report: Axline Decl. Ex. 8, Chamber Resolution 7008 (11/29/00) at PR-LEG0000047 (Conclusions and Recommendations).</p> <p>Examples of what was submitted to the Chamber include a letter from ESSO that assured the President of the Puerto Rico House of Representatives that "the levels of MTBE in the gasoline that is supplied to us tend to be substantially lower than the levels in reformulated gasoline." Axline Decl. Ex. 8, (9/20/2000 Letter from Jorge Concha to Hon. Antonio Silva Delgado, bates # XOM-PR-FILES-SUPP-473225.)</p> <p>Shell also assured Hon. Delgado that, "MTBE is not more toxic than the other components of gasoline. MTBE has been extensively studied in conventional toxicological tests and there is no concrete evidence to suggest that the use of MTBE in gasoline represents a risk to human health." Axline Decl. Ex. 8, 8/15/00 Letter from Juan I. Vasquez to Hon. Delgado (Bates # PR-LEG-0000050).</p> <p>Plaintiff also incorporates its Response to Paragraph 46.</p>
<p>48. Thereafter, in 1999, EPA sponsored an intensive three-day-long seminar for EQB and Commonwealth employees on the risks, hazards, fate, transport and clean-up of MTBE in groundwater. (<i>Dillon Dec.</i> Ex. 18 ("Maldonado Ex. 4 – Assessment and Management of MtBE Impacted Sites").</p>	<p><b>Undisputed that there was a seminar sponsored by the EPA and the American Petroleum Institute titled "Assessment and Management of MTBE Impacted Sites."</b></p> <p>Plaintiff incorporates its Responses to Paragraph 46 and 47.</p>
<p>49. In 2000, EQB received a memo from EPA directing the agency to monitor for "MTBE...at all underground tank release</p>	<p><b>Undisputed.</b></p> <p>Plaintiff incorporates its Response to Paragraph</p>

sites,” and “take immediate and aggressive remedial action” to address MTBE contamination. ( <i>Dillon Dec. Ex. 19</i> (PR-CORONA 000283-286)).	46 and 47.
50. By 2000, EQB’s own documents reflect their awareness of the behavior, characteristics, and perceived risks or hazards of MTBE as a groundwater contaminant. ( <i>Dillon Dec. Ex. 20</i> (XOM-PR-FILES-SUPP-542759-542765; <i>Dillon Dec. Ex. 21</i> (PR-LEG-0000077-80)).	<b>Undisputed, but incomplete.</b>  Plaintiff also incorporates its Response to Paragraph 46 and 47.

### The Trial Sites

#### a. Texaco #800 Trial Site

<b>DEFENDANTS’ UNDISPUTED MATERIAL FACTS AND ALLEGED SUPPORTING EVIDENCE</b>	<b>PLAINTIFF’S RESPONSE AND EVIDENCE</b>
51. Chevron Puerto Rico, LLC (“CPRLLC”) owned the service station and underground storage tanks at Texaco #800 from the 1960s until 2012. <i>See Maher Dec. Ex. 1</i> (Chevron Puerto Rico, LLC’s Amended Declarations in Lieu of Deposition Testimony, p. 6.)	<b>Undisputed.</b>
52. CPRLLC leased the Texaco #800 service station to retailers during the period of its ownership from the 1960s until 2012. <i>Maher Dec. Ex. 1</i> (Chevron Puerto Rico, LLC’s Amended Declarations in Lieu of Deposition Testimony, p. 6.)	<b>Undisputed.</b>
53. Retailers at Texaco #800 had no responsibility for, or control over, the installation, testing, repair or upgrade of the underground storage tanks at Texaco #800. Retailers at Texaco #800 were prohibited from making changes or alterations to the underground storage tanks without CPRLLC’s consent. <i>Maher Dec. Ex. 1</i> (Chevron Puerto Rico, LLC’s Amended Declarations in Lieu of Deposition Testimony, pp. 6-8; <i>Maher Dec. Ex. 2</i> (Rivera-Agostini Exhibit 5 at ¶ 7; and <i>Maher Dec. Ex. 3</i> (Rivera-Agostini Exhibit #6 at ¶ 17.)	<b>Undisputed.</b>

## b. The Esso Trial Sites

DEFENDANTS' UNDISPUTED MATERIAL FACTS AND ALLEGED SUPPORTING EVIDENCE	PLAINTIFF'S RESPONSE AND EVIDENCE
<p>54. Esso Standard Oil Company (Puerto Rico) ("Esso") owned the property, the USTs and the gasoline delivery system at the Esso CO-364 (Ponce) and Esso CO-242 (Cayey) stations. (<i>Dillon Dec. Ex. 6</i> ("Berrios Dep.") at 14-15); <i>Dillon Dec. Ex. 7</i> ("Torres-Sierra Dep.") at 9-10).</p>	<p><b>Undisputed.</b></p>
<p>55. Hector Berrios, an "administrator" of the Ponce station from 1998-2000, testified that he understood that no release of gasoline, regardless of the "ingredients," was acceptable, and that the same degree of care needed to be exercised as to all gasoline blends so as not to spill, as all gasoline is dangerous to the environment. (Berrios Dep. at 14-15, 68, 71). Mr. Berrios also testified that his procedures in the event of a spill were uniform, regardless of the gasoline blend; and that his response protocol was to immediately report a release to Esso. (<i>Id.</i> at 68-69).</p>	<p><b>Undisputed</b> that the "administrator" was not supposed to spill gasoline and that gasoline is dangerous to the environment. <b>Dispute</b> any implication that spills did not happen.</p> <p><b>Undisputed</b> that Esso did not have any special spill procedures based on the gasoline blend. <b>Dispute</b> any implication that the spill procedures were adequate to address releases of MTBE gasoline.</p> <p>Mr. Berrios testified that he had not been told by Esso that any amount of releases of gasoline with MTBE could contaminate drinking water. He also testified that he was never told that MTBE gasoline had to be handled differently or more carefully than gasoline without MTBE. <i>See</i> ¶ 79, <i>infra</i>.</p> <p>ExxonMobil evaluated Esso Puerto Rico's underground storage tank upgrade program and trained Esso employees and chose not to advise them of the steps needed to prevent MTBE releases. There is also evidence that if the information had been provided, it would have made a difference. Specifically:</p> <p>Augustus Munoz was employed by Esso Standard Oil Company (Puerto Rico) and was designated as an employee expert witness by Esso. <i>See</i> ¶ 90, <i>infra</i> citing at 11:15-12:20. When asked if he was an expert on UST's, Mr. Munoz stated that he had 40 years of experience in dealing with all aspects of UST's and taught classes on the subject to Esso</p>

	<p>personnel (<i>Id.</i> at 12:22-13:15, 45:1-3). He identified an ExxonMobil employee, Dave Porush, who trained him and evaluated Esso Puerto Rico's UST replacement program (<i>Id.</i> at 17, 45:14-16). He was asked: "Q: Did Mr. Porush or anyone else tell you that your program that you developed should consider MTBE. A: No." (<i>Id.</i> at 45). "Q: During the time you were working in the Exxon UST program, were you aware that MTBE had been found in drinking water wells in the United States... (objections)...A: No I don't." (<i>Id.</i> at 50-51) "Q: Do you believe that if there were extra steps that could have been taken to prevent MTBE from reaching drinking water wells that those steps should be taken to prevent those releases?... (objections)... A: If I had knowledge, which at that time, I didn't possibly, yes." <i>Id.</i></p>
<p>56. Miguel Torres-Sierra, the Cayey station operator from 1987-2007, testified that he sought to avoid any leak or release of gasoline at the station, regardless of the 'ingredients,' as he understood that <i>all</i> gasoline is harmful to the environment. (Torres-Sierra Dep. at 9-11, 95-96). Mr. Torres-Sierra's response protocol in the event of a leak detection was to promptly call both Esso and Mike Pizzaro, [Esso's tank maintenance contractor]. (<i>Id.</i> at 37).</p>	<p>Miguel A. Torres-Sierra, testified that he recalls Esso telling him they were providing him gasoline with MTBE, but does not recall being told anything about MTBE contaminating drinking water. He further testified that he understood gasoline with MTBE did not need to be handled differently. <i>See</i> ¶ 84, <i>infra</i>.</p> <p>Miguel A. Torres Hernandez testified he would take the extra steps that he could if he knew that the gasoline could contaminate the water. He thinks his father would too. He would have also told the employees to take the extra steps so that the gasoline wouldn't contaminate the water. <i>See</i> ¶ 83, <i>infra</i>.</p>

**c. Total #1012 Trial Site**

<b>DEFENDANTS' UNDISPUTED MATERIAL FACTS AND ALLEGED SUPPORTING EVIDENCE</b>	<b>PLAINTIFF'S RESPONSE AND EVIDENCE</b>
<p>57. With respect to Total #1012, Total 1012 operators Enrique Veglio-Matos and Antonio Pavia understood they had to</p>	<p><b>Disputed that the testimony cited states the asserted fact.</b></p>

prevent any release or spill regardless of the additives in the gasoline. (*Dillon Dec. Ex. 8* (“Veglio Dep.”) at 98:15-25; 99:1-3; *Dillon Dec. Ex. 9* (“Pavía Dep.”) at 32).

In addition, Antonio Pavia, operator of Total 1012 (a/k/a Gasolinas de Puerto Rico (GPR) Central Station), testified that he was never told by the Trial Site owner, Total Petroleum Puerto Rico Corp. f/k/a Gasolinas de Puerto Rico (TPPRC) that MTBE was in the gasoline being sold at the station. *See* ¶ 81, *infra*. During the time Mr. Pavia operated the Total 1012, he was not aware that MTBE could contaminate drinking water. *Id.*

Enrique A. Veglio-Matos, another operator of Total 1012, testified that the Trial Site owner, TPPRC/GPR did not tell him about MTBE being in the gasoline sold at the station. *See* ¶ 86, *infra*. He was never told that a drop of MTBE could cause water to taste bad. *Id.* He stated that if there were extra precautions he could have taken so MTBE would not get into his neighbor’s water, he would have tried to prevent MTBE from getting into his neighbors’ water. *Id.*

**PLAINTIFF'S SEPRARATE RULE 56.1 STATEMENT IN SUPPORT OF PLAINTIFF'S  
OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT**

**MTBE Gasoline is Defective Product**

58. MTBE in gasoline is defective because it causes unacceptable contamination of drinking water wells and resources. Axline Decl. Ex. 3, Expert Report of Graham E. Fogg, Ph.D. (Jan. 15, 2014) at 11 (“Nationwide water quality surveys have shown MTBE to be either the most commonly detected, or the second most commonly detected” contaminant “in drinking water sources.”).

59. MTBE is highly soluble in water, migrates at the same speed as groundwater, and is very persistent. Axline Decl. Ex. 3, Expert Report of Graham E. Fogg, Ph.D. (Jan. 15, 2014) at 31, Sect. 4.1.

60. The groundwater beneath each of the sites at issue here have been contaminated by MTBE and this MTBE contamination needs to be remediated in order to prevent contamination of drinking water wells. Axline Decl. Ex. 3, Revised Expert Report of Anthony Brown (April, 2014) at 1, Sect. 1.0 & Table 1.2 (“Summary of Key Opinions”).

61. “MTBE is a genotoxic carcinogen and as such, has no safe level of exposure, especially in drinking water.” \* \* \* “Any exposure can result in an increased long-term risk of cancer for humans.” Axline Decl. Ex. 3, Expert Report of Kenneth Rudo (Dec. 6, 2013) at 2 (“Summary of Key Opinions” – A).

62. Defendant Shell’s foremost hydrogeologist with MTBE experience, Curt Stanley, stated: “My professional is opinion is MTBE and similar oxygenates should not be used at all in

areas where groundwater is a potential drinking water supply.” Axline Decl. Ex. 1, Nov. 3, 1998, Email from C. Stanley to JF Pedley, *et al.* (Bates No. EQ 033388-89).

63. Defendant Exxon’s chief hydrogeologist, Barbara Mickelson, issued a memo in the early 1980s stating:

“[W]e recommend that from an environmental risk point of view MTBE not be considered as an additive to Exxon gasolines on a blanket basis throughout the United States. . . . From an environmental risk point of view we recommend against introducing MTBE into the Texas Eastern Transmission system and the South East Atlantic Coast.

Axline Decl. Ex. 9 (Depo. Trans. of Mickelson (Jan. 13, 2000) at 66:17-25, 67:6-17, 68:9-18, 69:8-25, 70:1-25, 72:10-16); Axline Decl. Ex. 1 (4/19/85 Memorandum from B.J. Mickelson to J. Mixter (Bates No. EX EnFI00050).

64. An executive with Chevron wrote a letter to all Chevron regional managers which states: “MTBE on the other hand is a different situation. The solubility of benzene in water is 1,800 parts per million (ppm), while the solubility of MTBE in water is 43,000 ppm! The dissolved plume that results from a leak into groundwater is directly related to the solubility in water of the chemical. The higher the solubility the larger the plume and the faster it will migrate. When MTBE gets into the water then the trouble really starts.” Axline Decl. Ex. 1 (8/12/91 Memorandum from J.L. Koerber to Regional Managers re: MTBE Effects, Bates No. CHEV 09564).

65. As a result of “concerns over groundwater contamination, 26 states have taken some form of action, to either ban or phase out MTBE” and “Puerto Rico moved to ban MTBE use in January 2012.” Axline Decl. Ex. 3, Expert Report of Graham E. Fogg, Ph.D. (Jan. 15, 2014) at 12.

**MTBE Was Not Needed as an Octane Enhancer in Puerto Rico**

66. Mark Scharre, designated by Phillips CORE as an employee expert on gasoline manufacturing, testified that they could utilize toluene, mixed xylenes, or MTBE to enhance the octane of gasoline that the Phillips CORE refinery manufactured. Axline Decl. Ex. 5, Scharre Depo. (May 20, 2014) at 85:14-18.) Mr. Scharre, in fact, testified that CORE would utilize the toluene or mixed xylenes because they didn't "have any other place to put" them. Axline Decl. Ex. 5, Scharre Depo. (May 20, 2014) at 281:1-12.]. Freddy Flores, a former employee of Phillips Puerto Rico CORE, testified that CORE had numerous options for octane enhancement including the use of toluene and mixed xylenes could have been used. Axline Decl. Ex. 5, Flores Depo. (Oct. 2, 2013) at 39:17-20, 40:1-7, and 86:23-87:5.].

67. Juan Lopez, Shell's most knowledgeable person concerning Shell's refinery at Yabuoca, Puerto Rico, confirmed that "the gasoline reformer at Shell Yabuoca was able to make a conventional gasoline without ethanol or MTBE . . ." Axline Decl. Ex. 5, Depo. of J. Lopez (Nov. 12, 2013) at 61:20-62:12.

68. Ricardo Casas, 20-year employee of Esso, testified that Caribbean Oil Refining Company (CORCO) was able to "refine the quality of product that was required, [including both regular and premium gasoline], and so it [MTBE] was not used." Axline Decl. Ex. 6, R. Casas Depo. (May 6, 2014) at 41:6-9, 42:5-21.

69. Patrick Bloomer of Shell, also designated as an employee expert, similarly testified that he would compare the cost of multiple octane enhancers such as MTBE, alkylate, reformate, and toluene to manufacture gasoline, and that any of these would be acceptable. Axline Decl. Ex. 6, P. Bloomer Depo. (Nov. 13, 2013) at 35:24-36:11, 37:5-8, and 61:17-20.

70. Both of Exxon's Rule 26(a)(2)(c) witnesses designated on the need for MTBE, Victor Dugan and Thomas Eizember, testified that Exxon had numerous choices for octane enhancement of gasoline, including toluene, mixed xylenes, and MTBE. Axline Decl. Ex. 7, April 4, 2014, Designation and Disclosure of Victor Dugan (Former Employees of Exxon Mobil Corporation) at 1-2 paragraphs 4-5; *id.* at 6/17/14 Depo. of V. Dugan at 38:9-19; *id.* at April 6, 2014, Designation and Disclosure of Thomas Eizember (Former Employees of Exxon Mobil Corporation) at 1-2 paragraph 4; *id.* at 6/09/14 Depo. of T. Eizember at 75:22-76:4, 81:21-82:16, and 84:10-17.

71. Edward Maciula, designated by Peerless as its Rule 30(b)(6) witness on Peerless' manufacture of gasoline for Sunoco, testified that MTBE was never needed by Peerless to manufacture gasoline for Sunoco and that Peerless had the components necessary to prepare gasoline without the use of MTBE. Axline Decl. Ex. 5, Maciula Depo. (Oct. 22, 2014) at 55:2-7 and 57:9-17.

72. Defendants' own expert on gasoline manufacturing, John O'Brien, testified that MTBE was not required as an oxygenate and that he could not identify a single refiner who "had" to use MTBE as an octane enhancer. Axline Decl. Ex. 4, O'Brien Depo. (May 30, 2014) at 106:12-19, 110:4-13.

73. "CORE began blending MTBE with gasoline in the middle of 1982. In addition to MTBE, CORE also blended TBA, toluene and mixed xylenes to increase the octane of gasoline so that it could be sold. In my professional experience, this is typical of gasoline manufacturing, in that a number of blendstocks can and are used to produce on-specification gasoline. However, both toluene and mixed xylenes generally have a significantly higher value

when sold as chemicals as opposed to being sold as gasoline. Thus, their use as a gasoline blendstock would tend to be minimized.” Axline Decl. Ex. 2, Expert Report of Bruce F. Burke (Jan. 22, 2014) at 4, ¶ 12.

**MTBE Was Added to Gasoline in Puerto Rico Solely to Increase Profits**

74. Refiners could not manufacture gasoline without creating butanes. Since the excess butanes could not be used to make gasoline, refiners had to find other ways to dispose of these materials that were not very profitable. By manufacturing MTBE, refiners realized the full value of the butanes while at the same time increasing the amount of gasoline they could make from the pool of materials. Axline Decl. Ex. 4, O’Brien Depo. (May 30, 2014) at 102:15-104:16.

75. Using MTBE as an additive to gasoline distributed to Puerto Rico was an economic choice. Plaintiff incorporates ¶¶ 73 and 74.

76. Phillips CORE refinery located in Guyanilla, Puerto Rico, had readily available toluene, mixed xylenes, MTBE and other ingredients to use as an octane enhancer, but the CORE refinery used MTBE because they could make more profit using the toluene and other ingredients to make petrochemicals rather than gasoline. Axline Decl. Ex. 2, Expert Report of Bruce F. Burke (Jan. 22, 2014) at 4, ¶ 12.

77. Although Phillips CORE refinery mixed xylenes and toluene were readily available for use as octane enhancers, MTBE was used because “there are potentially higher values uses for mixed xylenes and even toluene than gasoline.” Axline Decl. Ex. 7, Stern Depo. (May 28, 2014) at 172:23-173:7.

### **FAILURE TO WARN**

78. Every operator at every trial site at issue testified that they did not even know MTBE was present in the gasoline, or that MTBE could contaminate drinking water wells. Plaintiff's Separate 56.1 Statement in Support of Opposition to Motion for Summary Judgment re Sophisticated Purchaser (hereafter "Rule 56.1 Opp. Soph. Pur.") at ¶¶ 72-76.

79. Hector Emilio Berrios, administrator/operator of Esso CO-364, testified that he had not been told by Esso that any amount of releases of gasoline with MTBE could contaminate the water that people drink. He further testified that he was never told that MTBE gasoline had to be handled differently and more carefully than gasoline with MTBE. Rule 56.1 Opp. Soph. Pur. at ¶ 74.

80. Carlos Cuevas Ortiz, operator of Shell 3042, testified that at no time was he told by Shell that they were putting MTBE in the gasoline, that MTBE was in the gasoline, or that it was a component of gasoline. He further testified that he never learned that MTBE can get into drinking water. Rule 56.1 Opp. Soph. Pur. at ¶ 72.

81. Antonio R. Pavia, operator of Total 1012 (a/k/a Gasolinas de Puerto Rioc (GPR) Central Station), testified that he was never told by GPR that MTBE was in the gasoline sold at the station. During the time Mr. Pavia operated the Central station he was not aware that MTBE could contaminate drinking water and is concerned that MTBE could contaminate drinking water. Mr. Pavia indicates that he would have done everything he could to prevent MTBE from contaminating drinking water. Rule 56.1 Opp. Soph. Pur. at ¶¶ 76-77.

82. Angel M. Rivera-Agostini, operator of Texaco 800, testified that he does not recall any Texaco representative telling him that the gasoline had MTBE. He further testified that no one from Texaco told him that MTBE, if released, would contaminate drinking water. He continues by saying that he would be concerned if he found out that MTBE in the gasoline at this station could contaminate drinking water. He testified that if he had been told that there were extra steps he could have taken so that MTBE wouldn't contaminate drinking water he would have taken those steps. Rule 56.1 Opp. Soph. Pur. at ¶ 75.

83. Miguel A. Torres-Hernandez, was an employee of Esso CO-242, testified that was not aware of MTBE in gasoline. Rule 56.1 Opp. Soph. Pur. at ¶ 73.

84. Miguel A. Torres Sierra, the operator of Esso CO-242, also testified that he recalls Esso telling him they were providing him gasoline with MTBE, but does not recall being told anything about MTBE contaminating drinking water. He further testified that he understood gasoline with MTBE did not need to be handled differently. Rule 56.1 Opp. Soph. Pur. at ¶ 73.

85. Enrique A. Veglio-Matos, operator of Total 1012 (a/k/a Gasolinas de Puerto Rico (GPR) Central Station), testified that GPR did not tell him about MTBE in gasoline. He was never told that a drop of MTBE could cause water to taste bad. Rule 56.1 Opp. Soph. Pur. at ¶ 84.

86. Enrique A. Veglio-Matos also stated that if there were extra precautions he could have taken so MTBE would not get into his neighbor's water he would have tried to prevent the MTBE from getting into his neighbors' water. Rule 56.1 Opp. Soph. Pur. at ¶ 84.

87. Operators at trial sites testified that they would have taken additional steps to prevent MTBE contamination of drinking water supplies if they had been warned. Rule 56.1 Opp. Soph. Pur. at ¶¶ 75, 77 and 84.

88. Local personnel, who were responsible for the upgrade and maintenance of defendants' underground storage tank systems and for remediation of releases at defendants' stations, testified that they did not know about MTBE or its ability to contaminate drinking water wells. Plaintiff incorporates ¶¶ 89-92.

#### **Defendants' Employees Were Not Warned About MTBE**

89. Yamira Rivera, a former employee of Sol, testified that Sol did not inform her that MTBE was a threat to groundwater. She was not aware that MTBE was a groundwater contaminant until 2012, while working for Chevron Puerto Rico, LLC (CPRLLC), f/k/a Texaco Puerto Rico, Inc. At the time, she was implementing a remediation program in Puerto Rico and was instructed by her employer, CPRLLC, to gather information regarding MTBE. Rule 56.1 Opp. Soph. Pur. at ¶ 53.

90. Augusto Munoz, former employee of Esso Standard Oil Company (Puerto Rico) (Esso), testified that when he was implementing a storage tank upgrade program for Esso stations in Puerto Rico, he was never told to even consider MTBE. Rule 56.1 Opp. Soph. Pur. at ¶66. He only become aware that even small releases of MTBE gasoline could cause significant contamination at his deposition in this case as designee under Rule 30(b)(6). *Id.* He was not aware that MTBE had been detected in drinking water wells in the United States. *Id.* When asked if there were extra steps he could have taken to prevent releases and thus to prevent MTBE

from reaching water wells, he testified, “If I had knowledge, which at that time, I didn’t, possibly, yes.” *Id.*

91. Margaret King, former employee of Total Petroleum Puerto Rico Corp.(TPPRC), (a/k/a Gasolinas de Puerto Rico (GPR) from 1983 – 2010. Ms King testified that the first time she became aware of MTBE was through legal documents delivered to TPPRC in 2009. During her time in the gasoline business from 1983 to 2009 she had not heard anything about MTBE. Ms. King’s only exposure to information about MTBE was through the lawsuit. Rule 56.1 Opp. Soph. Pur. at ¶ 65.

92 Brenda Torano, former employee of Shell Puerto Rico, testified that she recalls MTBE mentioned in 2005 as part of an internal study done by Shell. Ms. Torano never received documents from Shell with information about service stations in the United States regarding MTBE frequently detected in drinking water then benzene. However, Ms. Torano did find this information on the internet when running her own searches. Rule 56.1 Opp. Soph. Pur. at ¶ 55.

### **Defendants Knew Warnings Were Needed**

#### **Chevron Phillips Chemical Puerto Rico Core LLC:**

93. The Material Safety Data Sheet (MSDS) provided by moving Core Defendants contains no special warnings as to MTBE hazards and no special handling procedures for MTBE gasoline. Rule 56.1 Opp. Soph. Pur. at ¶ 91.

#### **Chevron:**

94. In June 1986, in a memo entitled “Marketing Environmental Concerns Regarding the Use of MTBE in MOGAS, D.W. Callahan, a Chevron employee, also noted that MTBE had “several disturbing properties.” Rule 56.1 Opp. Soph. Pur. at ¶ 93. These “disturbing” properties included the high solubility and mobility of MTBE as compared to the regular components of gasoline. (*Ibid.*) Mr. Callahan specifically warned that “MTBE utilization could increase the costs to clean up leaks at service stations . . . . (*Ibid.*)

95. In December 1986, Chevron personnel circulated an article published in an oil industry trade publication reporting on significant MTBE groundwater contamination problems, highlighting, in particular, the Maine Paper and its call for changes to USTs at gasoline stations. Rule 56.1 Opp. Soph. Pur. at ¶ 94.

96. In 1991, Chevron recognized that the introduction of MTBE into gasoline in California would substantially change the consequences of a gasoline spill or leak. Rule 56.1 Opp. Soph. Pur. at ¶ 92. The internal memo warns that while non-MTBE gasoline plumes are “relatively easy” to address, “MTBE on the other hand is a different situation.” (*Id.*) The memo warns that MTBE gasoline releases will result in “larger” plumes of contamination that “will migrate” faster. (*Ibid.*) Specifically, the memo warns Chevron management that “[w]hen MTBE gets into the water then the trouble really starts.” (*Ibid.*) The memo concludes that:

“Our highest degree of concern right now is with service stations without spill containment manholes that are, or will be, served by racks that are blending MTBE. The combination of MTBE gasoline being delivered, the lack of spill containment manholes, and shallow groundwater could be tremendously expensive for us in the long run. **As they say, an ounce of prevention is worth a pound of cure, and in this case prevention is certainly prudent.**”

(*Id.*)

97. Another 1991 Memorandum by Chevron notes multiple additional safety precautions and amended handling instructions need to be provided when MTBE gasoline is being stored and distributed, including at service stations. The additional precautions and handling instructions identified by Chevron included: (1) “Spills or leaks of MTBE must be contained and prevented from contacting the ground or entering the waste water drainage system,” (2) “Tanks containing MTBE should have double bottoms and leak detections systems,” (3) “Provide proper facilities for shutdowns and tank cleaning to prevent any MTBE from being spilled or washing into the drainage system.” Rule 56.1 Opp. Soph. Pur. at ¶ 95.

98. In 1999, Chevron’s personnel put together a “White Paper” on MTBE intended to address questions about stricter regulation of underground storage tanks. Rule 56.1 Opp. Soph. Pur. at ¶ 96. Chevron’s White Paper specifically observed that “[i]t is because of the differences in physical and chemical properties of MTBE that it is more likely to reach groundwater [at service stations], as a result of incidental spills, overfills and gasoline deliveries, even without underground storage tank leaks.” (*Id.* [emphasis in original].) Chevron thus also recognized that even small “incidental” spills and releases, caused by individual handling gasoline at the station, had the capacity to reach and contaminate groundwater. More importantly, these types of leaks are only preventable through appropriate education and instruction of the individuals handling the gasoline.

98. In the mid-1990s, Chevron also acknowledged that MTBE was driving factor to implement upgrades to USTs and improve instructions on storage and handling practices at service stations:

“The USGS report points out that gasoline blended with MTBE may pose a greater risk to drinking water than non-oxygenated gasoline . . . . These

concerns are not new, as Marketing raised the same issue ten years ago in connection with the Tank Integrity Program. . . . Marketing believes that MTBE in groundwater issue is just one more additional justification for the large Marketing capital investments in avoid terminal and service station leaks and spills.”

Rule 56.1 Opp. Soph. Pur. at ¶ 97.

**Shell Oil Company:**

100. After supervising remediation of MTBE releases at Shell gasoline stations across the country for nearly twenty years, Curtis Stanley, an engineer and hydrogeologist at Shell, described MTBE as the “biggest environmental” issue facing United States oil companies. Rule 56.1 Opp. Soph. Pur. at ¶ 99.

101. Shell’s engineering coordinator, Glen Marshall, echoed the caution that releases of MTBE gasoline at service stations was dependent on improved and alternative instructions as well as upgrades of the entire UST system. In 1998, Mr. Marshall warned that the “‘Achilles Heel’” of [UST] systems has always been the ‘Bubba-factor’ . . . the best intentions of hardware manufacturers and designers being ultimately defeated by poor installation and maintenance practices.” Axline Decl. Ex. 9, May 29, 1998, Email from G. Marshall to C. Stanley. The maintenance practices Mr. Marshall is referring to are clearly the maintenance practices of service station owners and operators. A year later, Mr. Marshall continued to advised that “[u]pgrades addressed the inadvertent spills and releases, no root causes of tank or line leaks.” Axline Decl. Ex. 9, March 12, 1999, E-mail Correspondence from G. Marshall to C. Stanley.)

102. Stanley later advised that “[v]ery **small releases** of MTBE (even small overfills seeping into cracks in the pavement) have the potential to adversely impact groundwater.” Rule 56.1 Opp. Soph. Pur. at ¶ 100. Mr. Stanley further stated that “[m]y professional opinion is that

MTBE . . . should not be used at all in areas where groundwater is a potential drinking water supply.” (*Id.*)

103. In 1993, in discussing the increased problem of MTBE groundwater contamination from service station releases, Curtis Stanley wrote to one of his colleagues: “We need to convince management to implement dual containment NOW!” Rule 56.1 Opp. Soph. Pur. at ¶ 101.

104. In December, 2001, correspondence on the “latest MTBE monitoring” states that Shell will “clearly need to take some action in out high-risk area (Argentina, Puerto Rico, Bahamas),” and attaches an MTBE Policy Review wherein Shell admits, “At present, if any, information is supplied to our customers on the environmental aspects of storing gasoline that contains MTBE. In the EU risk assessment the suggestion is made that Oil Companies should vet the suitability of customers facilities to handle gasolines that contain MTBE some customers could claim that, in the absence of such information or vetting, we are responsible for their remediation costs.” Axline Decl. Ex. 6, 12/24/01 E-mail correspondence from John Bullock to D. Beer, et al. & “MTBE Policy Review-December 2001,” Bates Nos. SH-PR-SIPC-ESI\_008624-27 at 24, 25.

#### **Shell International Petroleum and Shell Western Supply and Trading**

105. Ian Charman testified on behalf of Shell International Petroleum and Shell Western Supply and Trading. Rule 56.1 Opp. Soph. Pur. at ¶ 107. He worked with various Shell entities from 1970 to 2010. *Id.* Mr. Charman testified that he “was aware of the concerns regarding groundwater contamination and MTBE, but only at a very general level.” *Id.* He testified that these concerns were not discussed with Shell Puerto Rico or Shell Yabuccoa. *Id.*

### **Exxon Mobil Corporation**

106. In the late 1990s, Exxon undertook a “study” to identify sources of potential releases from gasoline stations “because MTBE contamination is increasingly being found in surface and ground waters near gasoline stations, and has been identified as a potential threat to public drinking water supply systems.” Rule 56.1 Opp. Soph. Pur. at ¶ 108. The study noted that “[t]he presence of MTBE found in surface, ground and drinking waters has been increasing [and] . . . [t]here are several reasons why increased MTBE presence can be concern.” (*Id.*) Exxon’s study specifically concluded that “[s]mall leaks of gasoline (**1 teaspoon**) can translate into MTBE ground water concentrations above the taste and odor detectable threshold levels.” (*Id.* [emphasis added].) In fact, the Exxon study included a graphic representation of the potential impact of “small releases” of MTBE on groundwater. (*Id.*)

107. In the 1980’s, Exxon knew that underground storage tanks leaked, knew the potential impacts of MTBE to groundwater, and knew that if leaks occurred from USTs, MTBE could find its way to someone’s drinking water well. Rule 56.1 Opp. Soph. Pur. at ¶¶ 109-116.

### **HOVIC/HOVENSA**

108. Hess was aware of MTBE’s potential to contaminate groundwater “fate and transport issues,” at latest by the mid-1990’s. Rule 56.1 Opp. Soph. Pur. at ¶ 117.

109. The Material Safety Data Sheets provided by HOVIC (1994) and Hovensa (1999) do not adequately disclose the hazards of MTBE. Rule 56.1 Opp. Soph. Pur. at ¶ 118.

**TBA**

110. TBA has been detected and impacted the groundwater at each of the Trial Sites at issue in this motion. Axline Decl. Ex. 3, Revised Expert Report of Anthony Brown (April 2014) at Table 1.2.

111. Neat MTBE manufactured by Lyondell (formerly Arco Chemical Company) for use in gasoline contained TBA started in 1987. Axline Decl. Ex. 9, 4/26/00 Depo. of Dale Young (Lyondell employee) at 59:16-60:17; Axline Decl. Ex. 9, 6/05/00 Depo. of David Bott (Lyondell employee) at 69:6-9, 69:14-21, 70:14-16, 207:2-19, and 209:2-12.

112. TBA was present in MTBE supplied by Lyondell to Puerto Rico, including Phillips CORE. *See* Axline Decl., Ex. 9, 4/26/00 Depo. of Dale Young (Lyondell employee) at 59:16-60:17; Axline Ex. 9, 6/05/00 Depo. of David Bott (Lyondell employee) at 69:6-9, 69:14-21, 70:14-16, 207:2-19, and 209:2-12. In addition, CORE blended MTBE and TBA into finished gasoline. Axline Decl. Ex. 2, Expert Report of Bruce F. Burke (Jan. 22, 2014).

113. TBA is a toxic by-product of the manufacturing of MTBE. Axline Decl. Ex. 3, Expert Report of Graham E. Fogg, Ph.D. (Jan. 15, 2014).

114. When MTBE is in the gasoline, usually TBA is also in the gasoline. Axline Decl. Ex. 3, 5/27/14 Depo. of Graham Fogg at 168:8-15 (“if there’s MTBE in the gasoline, there’s quite commonly some TBA there as well”); *id.* at 169:5-16 (“TBA occurs with MTBE in many cases and was measured to be in the original product”). *See also* Axline Decl. Ex. 3, Depo. Trans. of A. Brown (May 23, 2014) at 406:8-12. (TBA is, in part, attributable to biodegradation of MTBE at ESSO #364).

115. Juries in four separate MTBE cases determined that gasoline with MTBE was either defectively designed, defective because defendants' failed to warn of its dangers, and/or negligently sold into systems from which it would inevitably leak. Axline Decl. Ex. 10 (*South Tahoe Pub. Utility v. Atlantic Richfield Company*, No. 999128 (Superior Ct. San Fran. County, CA) (Special Verdict Form Phase I); *id.*, *City of Merced v. Chevron U.S.A.*, No. 148451 (County of Merced, CA) (Special Verdict Form); *id.*, *State of New Hampshire v. Hess Corp.*, No. 03-C-0550 (Merrimack Superior Ct., N.H.) (Special Verdict Form); and *id.*, *City of New York v. ExxonMobil Corp.*, No. 04 Civ. 3417 (S.D.N.Y.) (Interrogatory Sheet Phase III).)

116. The trial court in the case of *City of Merced v. Chevron U.S.A.*, No. 1484 51 (County of Merced, CA) found:

Mr. Moreau's testimony provides sufficient evidence of what types of precautions needed to be taken to prevent or reduce spills and releases, to allow this question to go to the jury. Further the types of precautions he recommended would have prevented many of the types of releases that are alleged in this case. As Plaintiff pointed out, the adequacy of a warning is a question of fact for the jury. . . . [E]xpert testimony is not always required and a layperson can evaluate if the warnings were adequate or not.

Axline Decl. Ex. 11, *City of Merced v. Chevron U.S.A.*, No. 1484 51 (County of Merced, CA)

Ruling on Defendants' Motions for Nonsuit, at 4.

117. The trial court in the case of *City of Merced v. Chevron U.S.A.*, No. 1484 51 (County of Merced, CA), stated during a hearing addressing motions in limine:

"I don't think you necessarily need expert training in psychology, et cetera, especially when you have someone like Mr. Moreau who is very familiar with MTBE and its possible dangers. I think he could testify as to what certain mitigation measures could have been taken or what could have been warned of. And then it would be up to the jury to decide if those warnings are adequate or not. . . . sometimes it is just a matter of common sense on the part of the jury."

Axline Decl. Ex. 11, *City of Merced v. Chevron U.S.A.*, No. 1484 51 (County of Merced, CA) Oct. 4, 2011 R.T. 11:19-26; 12:3-4.

118. This Court stated at the pre-motion hearing with respect to this issue: “I probably would have been more receptive to your [failure to warn] argument before the City of New York case and the Second Circuit’s view on it, but they seem to accept it as a rather general theory that Moreau came up with and I think plaintiffs are relying on that.” Axline Decl. Ex. 11 (July 15, 2014 R.T. at 60:5-13.)

119. ConocoPhillips designated Wayne Wilson as their corporate representative to testify regarding warnings provided regarding MTBE. Axline Decl. Ex. 12, Depo. Trans. of Wayne Wilson taken in *In re MTBE* (Dec. 7, 2006) at 12:20-13:11. Mr. Wilson testified that “[b]ased on my investigation, the approach was that both types of gasoline, as I’ve explained, should be handled the same in the way that I’ve described it, securely contained, spills taken care of quickly, that kind of thing.” *Id.* at 48:1- , 48:23-49-2, 49:9-14, 49:17-25, and 50:3-8.

Chevron employee Kenneth Anderson, testified that Chevron instructed its jobbers and dealers to treat all gasoline, conventional and MTBE gasoline, the same, “because it really doesn’t matter to us... it really doesn’t matter what’s in the project - - or product.” Axline Decl. Ex. 12, Depo. Trans. of Kenneth Anderson taken in *In re MTBE* (June 20, 2007) at 8:15-16 and 38:10-39:9.


ExxonMobil designated Michael Roman as their corporate representative to testify regarding warnings. Axline Decl. Ex. 12, Michael Roman Depo., *In re MTBE* (March 28, 2007) at 10:3-

11. Mr. Roman testified that ExxonMobil never ever warned or notified stations, service stations, or customers that gasoline containing MBTE should be handled differently than gasoline without MTBE, nor that MTBE is more difficult and more expensive to clean up or remediate than conventional gasoline. *Id.* at Roman Depo. 162:17-22, 164:14-165:4.

ExxonMobil did not in its Material Safety Data Sheets, advise customers to test for MTBE in the event of a spill or contamination: “quite frankly, they don’t test...” *Id.* at Roman Depo. at 165:5-20.

Dated: November 7, 2014

Respectfully submitted,

By: 

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**PROOF OF SERVICE VIA LEXISNEXIS FILE & SERVE**

*Commonwealth of Puerto Rico, et al. v. Shell Oil Co., et al.*, United States District Court,  
Southern District of New York Case No. No. 07 Civ. 10470 (SAS)

I, the undersigned, declare that I am, and was at the time of service of the paper(s) herein referred to, over the age of 18 years and not a party to this action. My business address is 1050 Fulton Avenue, Suite 100, Sacramento, CA 95825-4225.

On the date below, I served the following document on all counsel in this action electronically through LexisNexis File & Serve:

**PLAINTIFF'S CONSOLIDATED OPPOSITION TO DEFENDANTS' RULE 56.1  
STATEMENT IN SUPPORT OF MOTION FOR SUMMARY JUDGMENT ON  
COUNT I AND IV (STRICT PRODUCTS LIABILITY)**

**AND**

**PLAINTIFF'S SEPARATE RULE 56.1 STATEMENT IN SUPPORT OF PLAINTIFF'S  
OPPOSITION TO MOTION FOR SUMMARY JUDGMENT**

I declare under penalty of perjury under the laws of the United States of America and the State of California that the foregoing is true and correct.

Executed on November 7, 2014, at Sacramento, California.

  
KATHY HERRON